

Mineral Industry Surveys

For information, contact:

Jozef Plachy, Zinc Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-49829, Fax: (703) 648-7757
E-mail: jplachy@usgs.gov

Samir Hakim (Data)
Telephone: (703) 648-4998
Fax: (703) 648-7975
E-mail: shakim@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

ZINC IN MARCH 2003

Domestic mine production in March, at 64,800 metric tons (t), was about 4% higher than in February, but was about 8% lower than production in March 2002. Smelter production, at 21,700 t, was about 5% lower than the previous month's production, but was about 28% higher than production in March 2002. Apparent consumption in March, at 65,100 t, was about 2% higher than consumption in February, but was about 3% lower than consumption in March of last year. The Platts Metals Week composite price for North American Special High Grade zinc in March increased by less than 1%, to 38.88 cents per pound of zinc metal; the price was about 4% lower than it was in March 2002.

Big River Zinc Corp. has added a second cathode stripping machine to its Sauget, IL, refinery. The refinery has three stripping units that produce 38%, 38%, and 24%, respectively, of its output. The new machine will replace one of the 38% cell room units. The remaining 38% unit has an automatic stripper, while the 24% unit is stripped manually. The new cathode stripping machine, which was part of a \$10 million upgrade investment, will reduce labor cost without changing the refinery's capacity of 92,000 metric tons per year (t/yr) (Platts Metals Week, 2003a).

Vancouver-based Teck Cominco Ltd. reported first-quarter net earnings of \$7.41 million. Although this was a significant increase compared with the corresponding period in 2002, the earnings continue to be affected by low zinc prices and a weaker U.S. dollar. The company attributes the greater earnings to higher copper, gold, and coal prices; the average zinc price remained about the same as a year before. Despite higher mill throughput and recovery rates that resulted in slightly higher production at Cominco's Red Dog Mine, the operation suffered an operating loss of \$4 million (compared with a loss of \$2 million during the corresponding period in 2002) due to a lower realized zinc price and higher depreciation and amortization costs. The loss at Red Dog was more than offset by an \$8 million profit from the company's Trail, British Columbia, smelter operations. The improved operating profit was helped by higher lead and zinc sales, but mainly was due to increased sale prices for electric power, which increased to \$38 per megawatt hour from \$23 per

megawatt hour in the first quarter of 2002. Two other major zinc operations—the Antamina Mine and the Cajamarquilla zinc refinery, both in Peru—also were profitable in the first quarter of 2003 (Teck Cominco Ltd., written commun., April 21, 2003). Teck Cominco's CEO stated that the zinc market is still in a surplus condition, but as mines and smelters have closed during the past two years, the surplus has been steadily diminishing (Platts Metals Week, 2003c).

The net earnings of Falconbridge Ltd. almost tripled in the first quarter of 2003—boosted by lower costs, increased sales volumes, and higher realized prices. Most of the increase resulted from a threefold increase in nickel operating income. In its quarterly report, Falconbridge also confirmed that its Kidd Creek zinc refinery will close from June 30 to September 2; in response to zinc market conditions, the planned closure was later extended to September 30. According to Falconbridge, persistent low treatment charges (combined with recent changes in currency exchange rates and higher energy costs) relative to concentrate purchases and metal prices forced the company to extend the already long period it planned for maintenance. Most of the concentrate is sourced from the Kidd Creek Mine; the remainder is imported, but the imports are not economical at prevailing low treatment charges. The Kidd Creek refinery will lose about 35,000 t of output as a result of the closure (Metal Bulletin, 2003b). Falconbridge's overall successful quarter did little to boost the earnings of Noranda Inc., Falconbridge's 59.5% parent company. A strong local currency, higher energy prices, and an ongoing labor dispute contributed to a \$19 million loss for Noranda in the first quarter. Noranda's zinc business also was hurt by the sale of the CEZ (Canadian Electrolytic Zinc Ltd.) refinery in 2002 to the Noranda Income Fund, in which Noranda holds a 49% interest (Mining Journal, 2003c).

Switzerland-based Xstrata plc announced a long-awaited takeover offer of \$1.03 per share for Australian base metal and coal miner MIM Holdings Ltd. The offer follows months of negotiation initiated by Xstrata in 2002. After reviewing other alternatives, including demerges, trade sales, and joint ventures, MIM's board concluded that the offer was in the best interest of the company's shareholders; MIM's managing director, however, proclaimed that the proposal did not adequately reflect the value

of the company. The acquisition must be approved by Xstrata and MIM shareholders as well as regulatory agencies and the Supreme Court of Queensland. Xstrata plans to finance part of the acquisition through a fully underwritten rights issue and by bank debt. The acquisition will allow Xstrata to enter copper and metallurgical coal markets, while significantly adding to its existing position in zinc production. MIM's zinc operations are centered near the Mount Isa Mine in Queensland and the McArthur River Mine in Northern Territory, primarily involving base metal mining and copper smelting. Since the sale of MIM's loss-incurring zinc smelters at Duisburg in Germany and Avonmouth in the United Kingdom, the company's zinc concentrate is sold on the open market (Platts Metals Week, 2003d).

Australia's Consolidated Broken Hill Ltd. (CBH), agreed to buy Pasminco Ltd.'s Elura zinc-lead-silver mine in New South Wales for \$13.3 million. CBH plans to continue the operations for at least 10 years, 8 years longer than originally planned by Pasminco. The Elura Mine treated 1.2 million metric tons (Mt) of ore, producing 85,400 t of zinc in concentrate, and 45,100 t of lead and 30 t of silver in lead concentrate (Platts Metals Week, 2003b). The impending sale of Elura prompted mine workers to strike in fear of job losses when ownership changed (Mining Journal, 2003b). Pasminco has decided to close its Cockle Creek lead-zinc smelter much sooner than originally planned. The original schedule was for the plant to close between 2006 and 2008, but operations now are expected to cease in September of this year. Low treatment charges, the strengthening of the Australian dollar, and forecast capital costs of meeting future environmental standards prompted the decision to close the smelter. The Cockle Creek smelter is located near Newcastle in New South Wales, where the nearby Elura Mine supplied the smelter with zinc and lead concentrates (Mining Journal, 2003a).

Update

Pasminco Ltd. has taken another step towards ridding itself of the assets that helped drive it into receivership; the company is selling its Elura Mine for \$22 million. The price includes \$11.8 million for environmental clean-up and rehabilitation costs at the mine. Pasminco will take responsibility for paying out its worker's entitlements. Thus, the mine's 120 workers (who have been on strike since March 25) were guaranteed that their entitlements would be paid in full after reorganization. The reorganization also involves improvement of labor efficiency and reduction of management and overhead costs. CBH plans to double the mine's life to 9 years and increase metal production by 6% through concentrator upgrading aimed at increasing metal recovery. The acquisition transformed CBH from explorer to producer. The sale of Elura is scheduled to be completed in August of this year (Metal Pages, 2003a¹).

¹References that include a section mark (§) are found in the Internet References Cited section.

In order to reduce its reliance on imports of zinc metal, Vietnam has decided to build its first zinc smelter in the northern province of Thai Nguyen, 80 kilometers north of Hanoi. Construction on the 10,500-t/yr smelter should begin this year and should be operational by the end of 2004. Feed for the smelter will be sourced from mines located in Thai Nguyen and Bac Kan Provinces. Between 30% and 35% of the smelter output is to be exported. The financing will be provided by the Vietnam Finance Ministry's Development Assistance Fund and by local banks through Thai Nguyen Non-Ferrous Metals Co., an affiliate of the Vietnam Minerals Corp. (Vimico), which also owns zinc mines in Vietnam. Zinc mine output is to be increased to between 30,000 t and 40,000 t from 20,000 t in 2002 (Metal Pages, 2003b).

China's four leading zinc smelters—Zhuzhou Smelting Group Co., Huludao Nonferrous Metals Group Co., Zhongjin-Lingnan Nonferrous Co., and Baiyin Nonferrous Metals Co. Ltd.,—have agreed to halt imports of zinc concentrate for the remainder of the year. This action was necessitated by low treatment charges and an acute shortage of raw materials on the international market. To compensate for the imported concentrate shortfall, Chinese producers will attempt to increase domestic mining. Zhongjin-Lingnan supported the decision despite its self reliance in concentrate supply. The remaining three smelters hope that capacity expansions will help to meet additional demand. In the longer term, new mining operations, such as the Glencore-Dongshengmiao joint venture in Inner Mongolia, should alleviate reliance on imported concentrates (Metal Bulletin, 2003a). Another potential lead-zinc mine is located in Gansu Province. The Xicheng deposit contains 20 Mt of measured and inferred resources containing 7.85 Mt of zinc in addition to antimony, cobalt, copper, lead, nickel, and tungsten (Antaika, 2003, p. 6).

References Cited

- Antaika, 2003, Lead, Zinc and Tin monthly: Antaika, no. 79, May, 16 p.
- Metal Bulletin, 2003a, Chinese zinc smelters boycott imported cons: Metal Bulletin, no. 8766, April 17, p. 3.
- Metal Bulletin, 2003b, Low prices for zinc force extended Kidd shutdown: Metal Bulletin, no. 8769, May 1, p. 4.
- Mining Journal, 2003a, Cockle Creek closure advanced: Mining Journal, v. 340, no. 8729, March 28, p. 221.
- Mining Journal, 2003b, Elura strike: Mining Journal, v. 340, April 4, p. 239.
- Mining Journal, 2003c, Falconbridge solid, Noranda fights on: Mining Journal, v. 340, no. 8733, April 25, p. 290.
- Platts Metals Week, 2003a, Big River adds stripping machine: Platts Metals Week, v. 74, no. 18, May 5, p. 12.
- Platts Metals Week, 2003b, CBH to buy, extend life of Elura mine: Platts Metals Week, v. 74, no. 15, April 14, p. 5.
- Platts Metals Week, 2003c, Teck Cominco posts robust first-quarter earning: Platts Metals Week, v. 74, no. 17, April 28, p. 2.
- Platts Metals Week, 2003d, Xstrata agrees to acquire MIM: Platts Metals Week, v. 74, no. 15, April 14, p. 1, 5.

Internet References Cited

- Metal Pages, 2003a (May 8), Vietnam to build first zinc smelter, accessed May 9, 2003, at URL <http://www.metal-pages.com/>.
- Metal Pages, 2003b (April 14), Elura purchase will transform CBH into a producer—Besley, accessed April 14, 2003, at URL <http://www.metal-pages.com/>

TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

	2002		2003			
	January- December	December	January	February	March	January- March
Production:						
Mine, zinc content of concentrate	784,000	68,000	67,700 ^r	62,500 ^r	64,800	195,000
Mine, recoverable zinc	754,000	65,500	65,200 ^r	60,200 ^r	62,300	188,000
Smelter, refined zinc	259,000	23,500	24,900	22,800	21,700	69,400
Consumption:						
Refined zinc, reported	421,000	33,300	33,100	33,100 ^r	34,400	101,000
Ores ^e (zinc content)	727	61	61	61	61	182
Zinc-base scrap ^e (zinc content)	189,000	15,900	15,900	15,900	15,900	47,600
Copper-base scrap ^e (zinc content)	176,000	14,700	14,700	14,700	14,700	44,000
Aluminum-and magnesium-base scrap ^e (zinc content)	1,430	120	120	120	120	359
Total ^e	789,000	64,000	63,800	63,900 ^r	65,100	193,000
Apparent consumption, metal ²	1,150,000	89,100	89,100	114,000	83,500	287,000 ³
Stocks of refined (slab) zinc, end of period:						
Producer ⁴	XX	8,550	11,900	8,930	6,110	XX
Consumer ⁵	XX	59,100	59,200	57,100	55,200	XX
Merchant	XX	9,970	11,600	10,100	11,300	XX
Total	XX	77,600	82,600	76,100	72,600	XX
Shipments of zinc metal from Government stockpile	5,040	--	516	--	--	516
Imports for consumption:						
Refined (slab) zinc	874,000	68,800	84,900	58,400	NA	143,000 ⁶
Oxide (gross weight)	69,700	5,700	6,630	6,570	NA	13,200 ⁶
Ore and concentrate (zinc content)	122,000	23,100	4,060	6,160	NA	10,200 ⁶
Exports:						
Refined (slab) zinc	1,160	98	74	97	NA	171 ⁶
Oxide (gross weight)	10,800	922	908	967	NA	1,880 ⁶
Ore and concentrate (zinc content)	822,000	22,500	19,800	12,900	NA	32,700 ⁶
Waste and scrap (gross weight)	47,700	4,280	2,890	3,610	NA	6,510 ⁶
Price:						
London Metal Exchange, average, dollars per metric ton	\$778.38	\$797.36	\$781.01	\$784.80	\$790.60	\$785.47
Platts Metals Week North American Special High Grade, average, cents per pound	38.64	39.69	38.72	38.68	38.88	38.76

⁶Estimated. ^rRevised. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

²Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

³Data based on reported consumption, stocks, and estimated trade data.

⁴Data from U.S. Geological Survey and American Bureau of Metal Statistics.

⁵Includes an estimate for companies that report annually.

⁶Includes data through February only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES¹

(Metric tons)

Month	Beginning stocks ²	Production	Shipments	Ending stocks ²
2002:				
March	11,000	22,700	24,000	9,760
April	9,760	23,400	23,800	9,420
May	9,420	23,900	25,800	7,470
June	7,470	23,700	24,500	6,670
July	6,670	19,100	18,900	6,830
August	6,830	16,200	16,000	7,010
September	7,010	17,900	17,400	7,470
October	7,470	16,100	16,600	7,020
November	7,020	21,800	20,800	7,970
December	7,970	23,500	22,900	8,550
Year	XX	259,000	257,000	XX
2003:				
January	8,550	24,900	21,500	11,900
February	11,900	22,800	25,800	8,930
March	8,930	21,700	24,500	6,110
January-March	XX	69,400	71,900	XX

XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT¹

(Metric tons)

Industry and product	2002		2003			January- March
	January- December	December	January	February	March ²	
Galvanizing:						
Sheet and strip	477,000	38,400	37,600	47,600	35,500	121,000
Other	175,000	12,900	12,900	18,300	11,500	42,800
Total	652,000	51,300	50,500	65,900	47,000	164,000
Brass and bronze	189,000	14,000	14,400	18,000	13,900	46,200
Zinc-base alloy	233,000	19,200	19,300	24,100	18,000	61,400
Other uses ³	71,700	4,600	5,000	6,200	4,700	15,700
Grand total	1,150,000	89,100	89,100	114,000	83,500	287,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on reported consumption, stocks and estimated trade data.

³Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES¹

Period	North American	LME cash	
	¢/lb.	¢/lb.	\$/t
2002:			
March	40.30	37.15	818.96
April	39.89	36.64	807.80
May	38.16	34.89	769.19
June	38.04	34.78	766.75
July	39.30	36.04	794.45
August	37.27	33.89	747.24
September	37.81	34.29	755.88
October	37.71	34.21	754.30
November	38.09	34.70	764.91
December	39.69	36.17	797.36
Year	38.64	35.31	778.38
2003:			
January	38.72	35.43	781.01
February	38.68	35.60	784.80
March	38.88	35.86	790.60
January-March	38.76	35.63	785.47

¹Special High Grade.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC¹

Material	2002		2003 ²			
	Quantity (metric tons)	Value (thousands)	February		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,160	\$1,210	97	\$85	171	\$144
Ore and concentrate (zinc content)	822,000	322,000	12,900	2,780	32,700	7,130
Waste and scrap (gross weight)	47,700	23,000	3,610	2,050	6,510	3,370
Powders, flakes, dust (zinc content)	5,660	8,120	479	647	978	1,240
Oxide (gross weight)	10,800	14,600	967	1,470	1,880	2,630
Chloride (gross weight)	1,950	1,930	196	207	228	248
Sulfate (gross weight)	2,900	1,760	225	130	362	209
Compounds, other (gross weight)	217	600	4	13	13	36

¹Data are rounded to no more than three significant digits.

²Data for March 2003 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC¹

Material	2002		2003 ²			
	Quantity (metric tons)	Value (thousands)	February		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	874,000	\$716,000	58,400	\$48,100	143,000	\$118,000
Ore and concentrate (zinc content)	122,000	44,600	6,160	2,600	10,200	4,390
Waste and scrap (gross weight)	31,200	9,530	656	413	2,020	913
Powders, flakes, dust (zinc content)	30,900	47,800	1,920	2,980	4,280	6,480
Oxide (gross weight)	69,700	57,600	6,570	5,010	13,200	10,500
Chloride (gross weight)	716	775	21	20	127	130
Sulfate (gross weight)	20,100	10,300	2,060	1,020	4,820	2,300
Compounds, other (gross weight)	1,030	1,180	40	41	74	81

¹Data are rounded to no more than three significant digits.

²Data for March 2003 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE¹

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2002:			
March	114,000	202	113,000
April	113,000	197	113,000
May	113,000	1,220	112,000
June	112,000	741	111,000
July	111,000	890	110,000
August	110,000	445	110,000
September	110,000	--	110,000
October	110,000	1,130	109,000
November	109,000	--	109,000
December	109,000	--	109,000
Year	XX	5,040	XX
2003:			
January	109,000	516	108,000
February	108,000	--	108,000
March	108,000	--	108,000
January-March	XX	516	XX

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY^{1,2}

(Metric tons)

Material and country	General imports			Imports for consumption		
	2002	2003		2002	2003	
		February	Year to date		February	Year to date
Ore and concentrate (zinc content):						
Australia	41,800	--	--	41,800	--	--
Ireland	6,570	6,160	10,200	6,570	6,160	10,200
Mexico	12,700	--	--	12,700	--	--
Peru	61,100	--	--	61,100	--	--
Other	118	--	--	118	--	--
Total	122,000	6,160	10,200	122,000	6,160	10,200
Blocks, pigs, or slab:						
Australia	35,000	--	14,000	21,000	--	14,000
Brazil	30,200	1,330	2,670	30,200	1,330	2,670
Canada	523,000	43,200	90,300	523,000	43,200	90,300
China	39,700	2,960	5,970	1,040	15	22
Japan	10,500	--	--	--	--	--
Kazakhstan	93,200	--	5,720	93,200	--	5,720
Korea, Republic of	76,200	--	4,000	2,480	--	--
Mexico	136,000	11,000	22,300	136,000	11,000	22,300
Peru	36,000	2,510	7,970	34,300	2,510	7,970
Poland	9,340	401	401	9,340	401	401
Russia	10,700	--	--	10,700	--	--
Other	25,200	--	--	13,100	--	--
Total	1,020,000	61,400	153,000	874,000	58,400	143,000
Dross, ashes, fume (zinc content)	15,500	845	2,100	15,500	845	2,100
Grand total	1,160,000	68,400	166,000	1,010,000	65,400	156,000
Oxide (gross weight):						
Canada	44,800	3,660	7,840	44,800	3,660	7,840
China	838	45	91	838	45	91
Japan	869	90	157	869	90	157
Mexico	19,900	2,400	4,360	19,900	2,400	4,360
Netherlands	2,640	345	690	2,640	345	690
Other	760	30	55	760	30	55
Total	69,700	6,570	13,200	69,700	6,570	13,200
Other (gross weight):						
Waste and scrap	31,200	656	2,020	31,200	656	2,020
Sheets	1,640	68	387	1,640	68	387
Powders, flakes, dust (zinc content)	30,900	1,920	4,280	30,900	1,920	4,280

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data for March 2003 were not available at time of publication.

Source: U.S. Census Bureau.